



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,493	02/24/2004	Isao Hayashi	1232-5306	3134
27123 7590 03/12/2007 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER TSO, EDWARD H	
			ART UNIT	PAPER NUMBER
			2838	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/12/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/786,493

Applicant(s)

HAYASHI, ISAO

Examiner

Pia F. Tibbits

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3-5 and 7-15 is/are pending in the application.
- 4a) Of the above claim(s) 3-5 and 7-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/15/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

This Office action is in response to the amendment filed 12/15/06. Claims 3-5, 7-15 are pending, of which claims 14 and 15 are new, while claims 3-5, 7-13 are withdrawn.

1. Applicant made an election with traverse of Group I, claims 1, 2, 6, on 6/26/2006. In the subsequent non-final action mailed 9/18/2006, applicant's election of Group I, claims 1, 2, 6, was acknowledged, and applicant was informed that since applicant did *not* distinctly and specifically point out the supposed errors in the restriction requirement, the election was treated as an *election without traverse*. **MPEP 818.03**. The requirement is still deemed proper and is therefore made **FINAL**. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (**37 CFR 1.144**). See **MPEP § 821.01**.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 14, 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14: the recitation

a controller, adapted to control a switch, which changes an object of supply of the input

is not clear since the "object of supply" is not described in the originally filed disclosure:

L2: (0) "20040164711" and (object supply)

To continue prosecution it was assumed that the power converter converts a power source input to a voltage and current appropriate for charging the battery.

As to the recitation:

direct current power, in accordance with a voltage detected by said detector so that the converted  
direct current power is supplied to the battery when the detected voltage is higher than a charge

Art Unit: 2838

voltage of the battery, and the input direct current power is supplied to the battery without changing the voltage of the direct current power with said converter when the detected voltage is equal or lower than the charge voltage.

it was interpreted in light of the instant specification describing at paragraph [0039]:

[0039] Referring to FIG. 1, a charger 1 has a DC input jack 2 which receives a DC power supply, a DC input selector switch 3, a voltage detection section 4 which detects the voltage of the DC input, a DC/DC converter 5 for constant-voltage/constant-current control, a regulator 6 which supplies a DC power having a predetermined voltage to an MPU (microcontroller) 7 and the like, the charging control MPU, a semiconductor switch 8 which turns on/off quick charging, a resistor 9 which limits the charging current for trickle charging, a semiconductor switch 10 which turns on/off trickle charging, a semiconductor switch 11 which controls quick charging, a semiconductor switch 12 which controls trickle charging, a resistor 13 which detects the charging current, and terminals 14 and 15 to which electrodes 17 and 18 of a battery 16 are connected.

As to claim 15: see remarks for claim 14 above.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

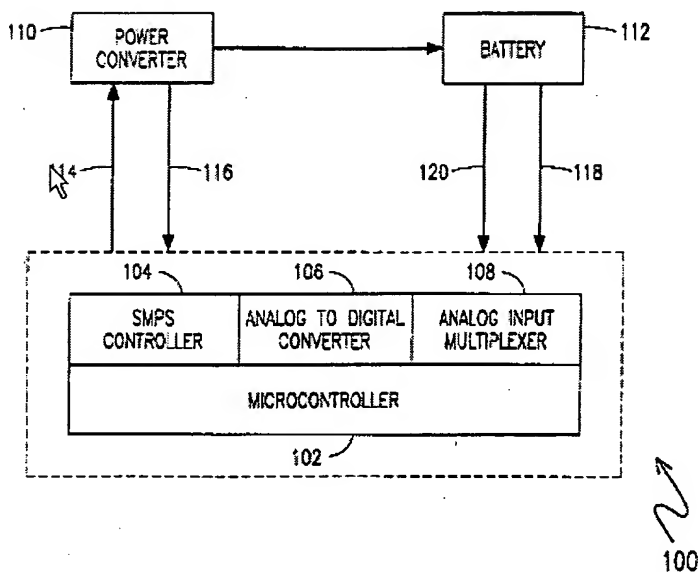
5. Claims 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over disclosed prior art, **Darmawaskita** [6456044] in view of **Ito et al.** [5825155].

Applicant used repeatedly the functional recitation "adapted to": the statements following "adapted to" are ambiguous, and **MPEP 2106** states that "Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not

Art Unit: 2838

limit the scope of a claim or claim limitation may raise a question as to the limiting effect of the language in a claim". Further, the courts held that USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997), *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003), *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969), *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).

Darmawaskita discloses a battery charger 100 for charging a battery, comprising:



a power input unit, adapted to input direct current power [see column 4, line 57];

a detector 116, adapted to detect a DC voltage input;

a converter 110, adapted to convert the input direct current power to output converted direct current power having a voltage different from a voltage of the input direct current power [see column 4, lines 49-62];

embodiment of the invention is illustrated. The integrated circuit package charger logic and control is generally represented by the numeral 100 and comprises a microcontroller 102, a switch mode power supply (SMPS) controller 104, an analog-to-digital converter (ADC) 106, and an analog input multiplexer 108. A power converter 110 converts a power source (not illustrated) such as AC mains or a larger battery system such as found in an automobile to a **voltage** and current appropriate for charging a battery 112. The SMPS controller 104 of the charger logic and control 100 controls the power converter 110 and monitors battery 112 current and/or **voltage** during charging thereof.

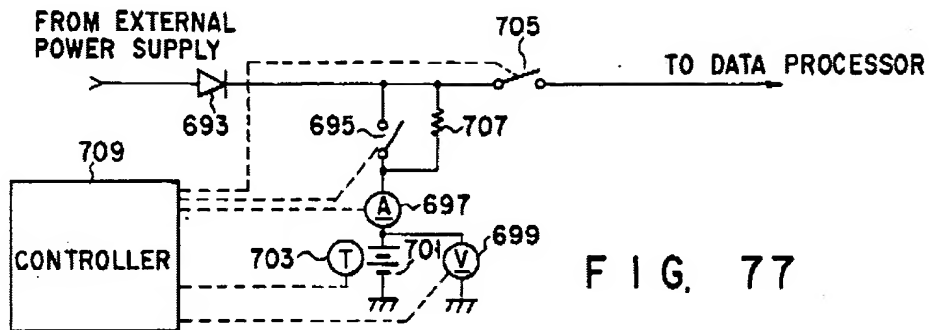
and a controller 102, adapted to control a switch SMPS, so that the power converter converts a power source input to a voltage and current appropriate for charging the battery [see column 5, lines 52-64].

<sup>1</sup> While the SMPS controller 102 preferably functions as an analog closed loop controller to maintain the **voltage** and/or current charging rates to the battery 112 in accordance with the setpoint(s), the microcontroller 102 also monitors condition values of the battery 112 being charged. These condition values are received at the analog inputs 118 and may be, for example but not limitation, charging **voltage** and current, temperature, etc. Digital values (high/low logic levels, switch contacts and the like) may be received at input(s) 120 for use by the microcontroller 102. Typical digital values at input 120 may be battery identification codes, presence of a battery to be charged, high temperature, low water or electrolyte level, high pressure and the like.

Darmawaskita does not disclose quick/rapid or trickle charging.

Ito discloses in fig.77, at column 81, lines 64-67, and at column 82, lines 1-3, 7-22:

Art Unit: 2838



When the charge/discharge switching circuit 695 is turned on, the secondary battery 701 is rapidly charged with a constant current by the output current limit function of the external power supply. If the charge/discharge switching circuit 695 is in the OFF state, the secondary battery 701 is charged with a small current (**trickle** charge) by the current limit circuit 707.

measuring section 699. If the battery voltage is higher than the level of a predetermined value, the charge/discharge switching circuit 695 is turned on to rapidly charge the secondary battery 701. However, if the battery voltage of the secondary battery 701 is lower than the level of the predetermined value, the rapid charge operation is not performed. Since the secondary battery 701 is always charged with a small current through the current limit circuit 707, the rapid charge operation is started at a battery voltage of the predetermined value or more.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Darmawaskita's apparatus and include a current limiting circuit allowing quick/rapid or trickle charging of the battery, as disclosed by Ito, in order to perform appropriate charge control.

As to the method claim 15: the method steps will be met during the normal operation of the apparatus described above.

***Information Disclosure Statement***

6. The information disclosure statement filed 9/15/2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance of the Non-Patent Literature Document submitted, Chinese Patent Office action dated August 4, 2006, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each document listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

***Response to Arguments***

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection. Applicant canceled elected claims 1, 2, 6 and included new claims 14, 15, which is new issue.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus.



Art Unit: 2838

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact the Supervisory Patent Examiner Karl Easthom whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

March 4, 2007

Pia Tibbits

Primary Patent Examiner

A handwritten signature in black ink, appearing to be 'Pia Tibbits', enclosed within a dashed-line rectangular box.